B.Tech

(SEM V) ODD SEMESTER THEORY EXAMINATION 2009-10
MICROPROCESSORS AND APPLICATIONS

Time : 3 Hours]   *[Total Marks : 100*

Note :   *Attempt all questions.*

1   Attempt any **two** of the following :   10×2=20

(a)   Describe how a D latch responds to a positive pulse on its CK input and how a D-flip flop responds to a positive pulse on its CK input show its illustrations.

(b)   Why do most ROMS and RAMS have three state inputs ? Describe micro computer bus operation.

(c)   Describe the various addressing modes of 8085.

2   Attempt any **two** of the following :   10×2=20

(a)   What are the differences between 8086 and 8088 ? Explain.

(b)   What determines whether a microprocessor is considered as a 8 bit, a 16 bit or a 32 bit device ? What are the advantages of using a CPU register for temporary data storage over using a memory location ?

(c) For 8086 program algorithm, develop a flow chart or pseudo code which gets a number from a memory location, subtracts 20 H from it, and inputs 01 H to port 3 AH if the result of subtraction is greater than 25 H.

3 Attempt any **two** of the following :   10×2=20

(a) Give a complete diagram of 8255 A and explain its various modes.

(b) Suppose that eight devices are to be monitored and that each device has an 8-bit register for storing its status. Draw a logic diagram to illustrate how this can be accomplished using an 8279.

(c) Explain 8259 and its various modes.

4 Attempt any **two** of the following :   10×2=20

(a) What number is programmed in an 8254 counter to count 300 events ? If a 16-bit count is programmed into 8254, which byte of the count is programmed first ?

(b) Write a program to interface an ADC 0808 / 0809 at I/O port 0260 H for data and 0270 H to test the INTR pin.

(c) Write a technical note on DAC interfacing and its applications.

5 Attempt any **two** of the following :   10×2=20

(a) In 8051 how many different conditional jump instructions are there ? Explain each of them.

(b) In 8051, which flags are altered by RR, RL, RRC and RLC instructions ? Explain times subsystem in 8051.

(c) What are differences between 32 bit and 64 bit advanced microprocessors ? Explain.

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